

CLAIM AMENDMENTS

IN THE CLAIMS

This listing of the claims will replace all prior versions, and listing, of claims in the application or previous response to office action:

1. **(Currently Amended)** A method for registering a new subscriber in a radio system having a central system and a plurality of subscribers, said central system and said subscribers comprise a transmission and a receiving device, said subscribers can establish direct radio contact with the central system or indirect contact via one or more other subscribers as routers, said method for registering comprising the following steps:

- a new subscriber sends a search signal to all subscribers that can be reached and selects a first router from subscribers that respond;

- the new subscriber sends a registration request to the first router in the form of a message, said message contains a provisional address and an identifier of the central system assigned to the first router;

- after the registration request from the first router has been forwarded to the central system, the central system decides whether to accept or reject the registration request, and

- if accepted, the central system sends a response via the first router which contains a subscriber number and a system identifier which is accepted and stored by the new subscriber,

wherein if the registration request is rejected by the central system, the new subscriber selects another first router of another radio cell and sends a registration request via this router to its central system,

and

wherein the new subscriber, after a successful registration, sends out a second search signal to all subscribers located within its radio range and subsequently informs the central system about all subscribers that can be reached in its radio range of radio system.

2. **(Cancelled)**

3. (Original) A method in accordance with Claim 1, wherein after the new subscriber sends the search signal and the subscribers located within range respond by sending their address and an identifier of their system to the new subscriber, the new subscriber stores the addresses and the associated system identifications in a list of potential routers, for which it defines the order in accordance with a prespecified evaluation algorithm, and the new subscriber selects its first router from the list in accordance with its order and if its registration request is rejected by the system of the first router, selects a further router in each case in accordance with the prespecified order of the list for sending the registration request again.

4. (Original) A method in accordance with Claim 3, wherein the new subscriber defines the order of potential routers on its list in accordance with the strength of the response signal.

5. (Previously Presented) A method in accordance with Claim 3, wherein the new subscriber first checks whether a central system is responding to its search signal and that in this case it puts the central system at the top of its list.

6. (Original) A method in accordance with Claim 3, wherein the new subscriber defines for the order of its list of potential routers how many hierarchy stages away each responding system is from its central system.

7. (Original) A method in accordance with Claim 3, wherein the new subscriber evaluates the system identifiers of the responding subscribers for the order of its list.

8. (Cancelled)

9. (Original) A method in accordance with Claim 8, wherein the new subscriber notifies the central system about the field strength with which it is receiving the signals from the subscribers that it can reach, and the central system creates from this data an optimum

system configuration for transmission of messages via routers and notifies the subscribers of the radio system of this configuration.

10. (Previously Presented) A method in accordance with Claim 1, wherein the signals of the new subscriber in each case with their provisional address, are forwarded in precisely the same way as the telegrams with a unique address, in which case on the way to the central system the routers of the subscribers through which the messages pass are marked so that the response from the central system to the registering subscriber travels back on the same path.

11. (Original) A method in accordance with Claim 10, wherein the subscribers through which the messages pass are marked by collecting their relevant addresses in the forwarded telegram.

12. (Original) A method in accordance with Claim 10, wherein the subscribers through which the messages pass are marked by an identifier which allows routing with distributed lists.

13. (Previously Presented) A method for registering a new subscriber in a radio system having a central system and a plurality of subscribers, said central system and said subscribers comprise a transmission and a receiving device, said subscribers can establish direct radio contact with the central system or indirect contact via one or more other subscribers as routers, said method for registering comprising the following steps:

- a new subscriber sends a search signal to all subscribers that can be reached and selects a first router from subscribers that respond;

- the new subscriber sends a registration request to the first router in the form of a message, said message contains a provisional address and an identifier of the central system assigned to the first router;

- after the registration request from the first router has been forwarded to the central system, the central system decides whether to accept or reject the registration request, and

- if accepted, the central system sends a response via the first router which contains a subscriber number and a system identifier which is accepted and stored by the new subscriber,

wherein the new subscriber, after a successful registration, sends out a second search signal to all subscribers located within its radio range and subsequently informs the central system about all subscribers that can be reached in its radio range of radio system.

14. (Previously Presented) A method in accordance with Claim 13, wherein after the new subscriber sends the search signal and the subscribers located within range respond by sending their address and an identifier of their system to the new subscriber, the new subscriber stores the addresses and the associated system identifications in a list of potential routers, for which it defines the order in accordance with a prespecified evaluation algorithm, and the new subscriber selects its first router from the list in accordance with its order and if its registration request is rejected by the system of the first router, selects a further router in each case in accordance with the prespecified order of the list for sending the registration request again.

15. (Previously Presented) A method in accordance with Claim 14, wherein the new subscriber defines the order of potential routers on its list in accordance with the strength of the response signal.

16. (Previously Presented) A method in accordance with Claim 14, wherein the new subscriber first checks whether a central system is responding to its search signal and that in this case it puts the central system at the top of its list.

17. (Previously Presented) A method in accordance with Claim 14, wherein the new subscriber defines for the order of its list of potential routers how many hierarchy stages away each responding system is from its central system.

18. (Previously Presented) A method in accordance with Claim 14, wherein the new subscriber evaluates the system identifiers of the responding subscribers for the order of its list.

19. (Previously Presented) A method in accordance with Claim 13, wherein the new subscriber notifies the central system about the field strength with which it is receiving the signals from the subscribers that it can reach, and the central system creates from this data an optimum system configuration for transmission of messages via routers and notifies the subscribers of the radio system of this configuration.

20. (Previously Presented) A method in accordance with Claim 13, wherein the signals of the new subscriber in each case with their provisional address, are forwarded in precisely the same way as the telegrams with a unique address, in which case on the way to the central system the routers of the subscribers through which the messages pass are marked so that the response from the central system to the registering subscriber travels back on the same path.

21. (Previously Presented) A method in accordance with Claim 20, wherein the subscribers through which the messages pass are marked by collecting their relevant addresses in the forwarded telegram.

22. (Previously Presented) A method in accordance with Claim 20, wherein the subscribers through which the messages pass are marked by an identifier which allows routing with distributed lists.

23. (Previously Presented) A method in accordance with Claim 13, wherein if the registration request is rejected by the central system, the new subscriber selects another first router of another radio cell and sends a registration request via this router to its central system.